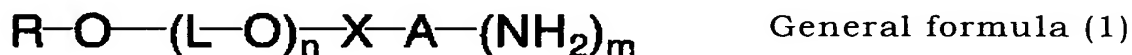


WHAT IS CLAIMED IS:

1. A microcapsule produced using at least an isocyanate compound, wherein the isocyanate compound is a reaction product of (A) a compound having at least two isocyanate groups in a molecule with (B) a polyether derivative having two or more functional groups each having an active hydrogen atom at one terminal thereof and a polyether moiety that has a degree of polymerization in the range of 10 to 500.

2. A microcapsule according to claim 1, wherein the polyether derivative is represented by the following general formula (1):



wherein X represents a single bond, -CO- or -SO<sub>2</sub>-; A represents an arenetriyl or arenetetrayl group, or an alkanetriyl or alkanetetrayl group based on the selection of m selected from 2 or 3; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; and n is an integer from 10 to 500.

3. A microcapsule according to claim 2, wherein A in general formula (1) is an arenetriyl group having two NH<sub>2</sub> groups as substituents and having 6 to 30 carbon atoms in total, or an arenetetrayl group having three NH<sub>2</sub> groups as substituents and

having 6 to 30 carbon atoms in total.

4. A microcapsule according to claim 2, wherein A in general formula (1) is an alkanetriyl group having two  $\text{NH}_2$  groups as substituents and having 1 to 30 carbon atoms in total, or an alkanetetrayl group having three  $\text{NH}_2$  groups as substituents and having 1 to 30 carbon atoms in total.

5. A microcapsule according to claim 1, comprising a diazo compound or an electron-donating dye precursor.

6. A microcapsule according to claim 2, comprising a diazo compound or an electron-donating dye precursor.

7. A heat-sensitive recording material comprising a heat-sensitive recording layer formed on a support, the heat-sensitive recording layer including (i) a coupler and a microcapsule containing a diazo compound, or (ii) a color developing agent and a microcapsule containing an electron-donating dye precursor,

wherein the microcapsule containing the diazo compound or the electron-donating dye precursor is produced using at least an isocyanate compound that is a reaction product of (A) a compound having at least two isocyanate groups in a molecule with (B) a polyether derivative having two or more functional groups each having an active hydrogen atom at one terminal thereof and a polyether moiety that has a degree of polymerization in the range of 10 to 500.

8. A heat-sensitive recording material according to claim 7, wherein the polyether derivative is represented by the following

general formula (1):



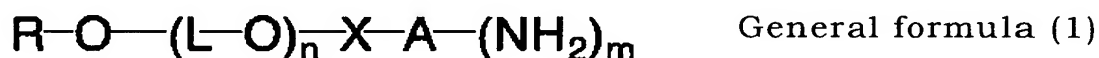
wherein X represents a single bond, -CO- or -SO<sub>2</sub>-; A represents an arenetriyl or arenetetrayl group, or an alkanetriyl or alkanetetrayl group based on the selection of m selected from 2 or 3; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; and n is an integer of 10 to 500.

9. A multicolor heat-sensitive recording material comprising a heat-sensitive recording layer that develops cyan, a heat-sensitive recording layer that develops magenta and a heat-sensitive recording layer that develops yellow, formed on a support, each of the heat-sensitive recording layers including (i) a coupler and a microcapsule containing a diazo compound; or (ii) a color developing agent and a microcapsule containing an electron-donating dye precursor,

wherein at least one kind of microcapsule containing the diazo compound or the electron-donating dye precursor is produced using at least an isocyanate compound which is a reaction product of (A) a compound having at least two isocyanate groups in a molecule with (B) a polyether derivative having two or more functional groups each having an active hydrogen atom at one

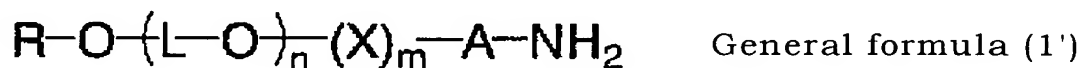
terminal thereof, and a polyether moiety that has a degree of polymerization in the range of 10 to 500.

10. A multicolor heat-sensitive recording material according to claim 9, wherein the polyether derivative is represented by the following general formula (1):



wherein X represents a single bond, -CO- or -SO<sub>2</sub>-; A represents an arenetriyl or arenetetrayl group, or an alkanetriyl or alkanetetrayl group based on the selection of m selected from 2 or 3; L represents an alkylene group; R represents an alkyl group, an aryl, or an acyl group; and n is an integer of 10 to 500.

11. A microcapsule having a polyurea or a polyurethane/urea wall, obtained by polymerization of an isocyanate compound with a compound having an active hydrogen atom, wherein at least one kind of the isocyanate compound is a reaction product of (1) a isocyanate compound having at least two isocyanate groups with (2) a polyether derivative having a terminal amino group represented by the following general formula (1'):



wherein X represents -CO- or -SO<sub>2</sub>-; A represents an arylene group, or an alkylene group; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; m is an integer of 0 or 1; and n is an average additional molar number of a polyether group in the range of 10 to 500.

12. A microcapsule according to claim 11, wherein in general formula (1'), A represents an arylene group, and m is an integer of 1.

13. A microcapsule according to claim 11, wherein in general formula (1'), a group represented by -(X)<sub>m</sub>-A-NH<sub>2</sub> is selected from the group consisting of an aminoethyl group, an aminopropyl group, a 4-aminobenzoyl group, a 3-aminobenzoyl group, a 4-aminobenzenesulfonyl group, an aminoacetyl group, and an aminoethylsulfonyl group.

14. A microcapsule according to claim 11, wherein in general formula (1'), a moiety represented by -(L-O)<sub>n</sub>- is selected from the group consisting of polyethylene oxide, polypropylene oxide, polytetramethylene oxide, polystyrene oxide, polycyclohexylene oxide, a polyethylene oxide-polypropylene oxide-block copolymer, and a polyethylene oxide-polypropylene oxide random copolymer.

15. A microcapsule according to claim 11, comprising a diazo compound or an electron-donating dye precursor.

16. A microcapsule according to claim 12, comprising a

diazo compound or an electron-donating dye precursor.

17. A heat-sensitive recording material comprising a support and a heat-sensitive recording layer including (1) a microcapsule containing a diazo compound, and a coupler; or (2) a microcapsule containing an electron-donating dye precursor, and a color developing agent; the heat-sensitive recording layer being formed on the support, wherein the microcapsule contains a diazo compound or an electron-donating dye precursor, has a polyurea or a polyurethane/urea wall and is produced by polymerization of an isocyanate compound with a compound having an active hydrogen atom, and at least one kind of the isocyanate compound that is used is a reaction product of (1) an isocyanate compound having at least two isocyanate groups with (2) a polyether derivative having a terminal amino group represented by the following general formula (1'):

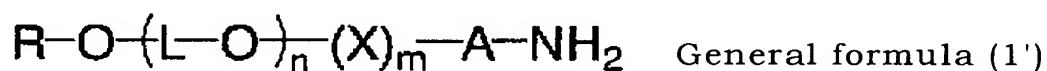


wherein X represents -CO- or -SO<sub>2</sub>-; A represents an arylene group, or an alkylene group; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; m is an integer of 0 or 1; and n is an average additional molar number of a polyether group in the range of 10 to 500.

18. A heat-sensitive recording material according to claim 17, wherein in general formula (1'), A represents an arylene group, and m is an integer of 1.

19. A multicolor heat-sensitive recording material comprising a support and heat-sensitive recording layers in cyan, magenta and yellow, respectively, formed on the support, each of the heat-sensitive recording layers including (1) a microcapsule containing a diazo compound, and a coupler; or (2) a microcapsule containing an electron-donating dye precursor, and a color developing agent,

wherein at least one kind of the microcapsule contains a diazo compound or an electron-donating dye precursor, has a polyurea or a polyurethane/urea wall, and is produced by polymerization of an isocyanate compound with a compound having an active hydrogen atom, and at least one kind of the isocyanate compound that is used is a reaction product of (1) an isocyanate compound having at least two isocyanate groups with (2) a polyether derivative having a terminal amino group represented by the following general formula (1'):



wherein X represents -CO- or -SO<sub>2</sub>-; A represents an arylene

group, or an alkylene group; L represents an alkylene group; R represents an alkyl group, an aryl group, or an acyl group; m is an integer of 0 or 1; and n is an average additional molar number of a polyether group in the range of 10 to 500.

20. A multicolor heat-sensitive recording material according to claim 19, wherein in general formula (1'), A represents an arylene group, and m is an integer of 1.